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ABSTRACT

Two centers of diffusion of the English language are (1) schools on the Navajo Reservation and (2) off-Reservation towns; these diffusion centers were studied to examine factors involved in language shift, especially in terms of internal (on-Reservation) and external (off-Reservation) contacts with English. Teachers in schools with Navajo pupils on and near the Reservation filled out questionnaires rating language proficiency of Navajo 6-year-olds at the time school started in 1969 and 1970. The correlation of ease of access to a school with language maintenance was examined in terms of 2 types of schools: Bureau of Indian Affairs (BIA) schools and public schools. Findings revealed that 6-year-olds coming to BIA schools tend to be speakers of Navaho who know a small amount of English, while 6-year-olds coming to public schools are closer to being "balanced" bilinguals. A key factor in explaining this is the fact that public school children live much closer to school, the center of diffusion. To investigate how ease of access to an off-Reservation town influences a community's language maintenance, an accessibility index and an average language score for each school were calculated. It was found that the nearer a community is to an off-Reservation town, the more contact it has with English and the more likely parents are able to speak some English at home. The survey also looked at 2 specific communities (Rock Point and Lukachukai, Arizona) in terms of language diffusion. Related documents are ED 035 484, ED 043 004, ED 043 005, ED 043 413, and ED 048 584. (NQ)

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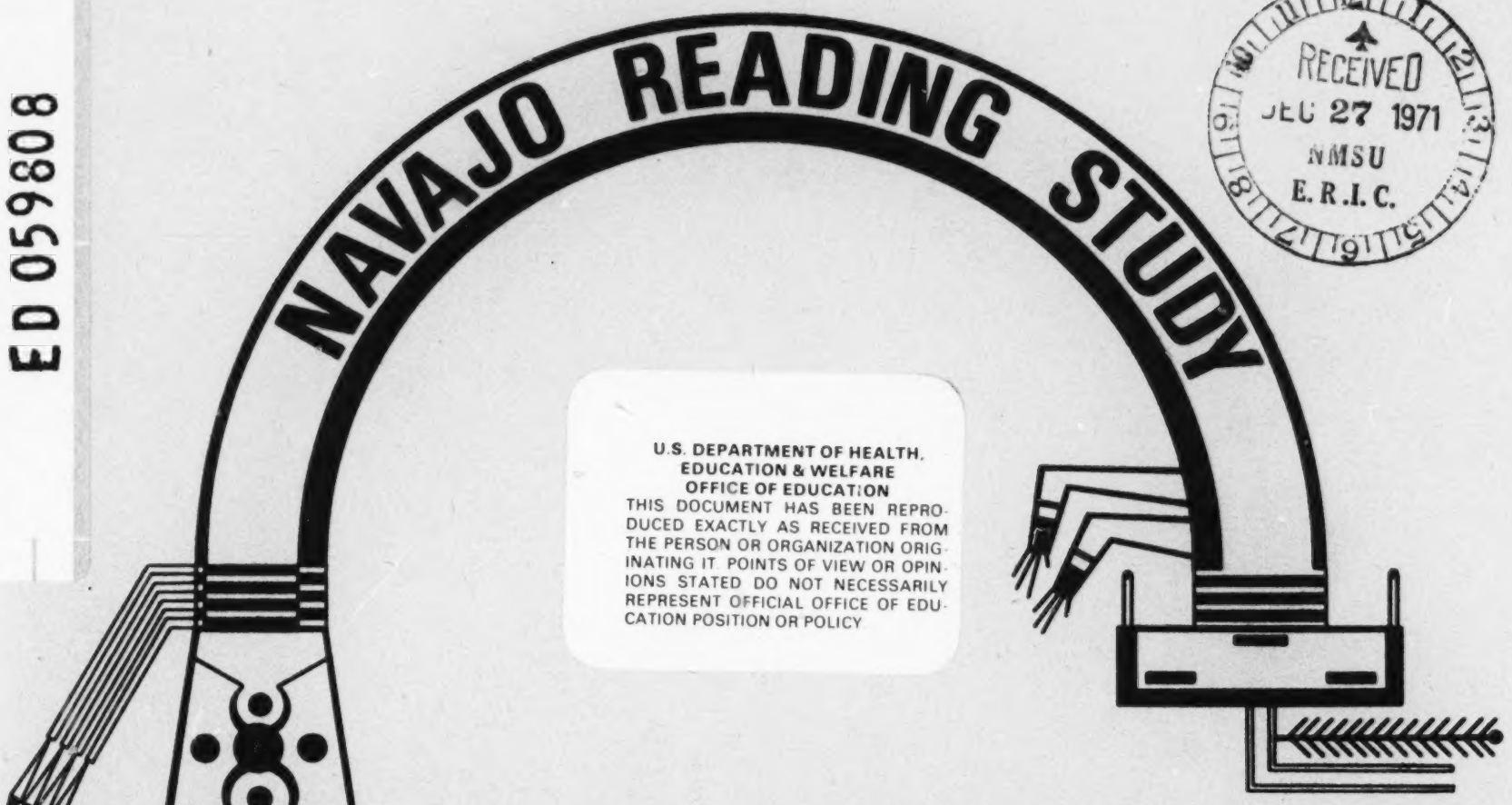

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NAVAJO LANGUAGE MAINTENANCE II: ACCESSIBILITY OF SCHOOL AND TOWN AS A FACTOR IN LANGUAGE SHIFT

Bernard Spolsky

Navajo Reading Study Progress Report No. 14
The University of New Mexico, August 1971

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NAVAJO READING STUDY

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Preface

Established in summer 1969, the Navajo Reading Study is concerned with the Navajo right to read, studying the feasibility and effect of teaching Navajo children to read their own language first.

As a necessary preliminary to the study, the language use of six-year-old Navajo children was surveyed in 1969 (Progress Report No. 5) and again in 1970 (Progress Report No. 13). This present study is an outgrowth of those surveys, looking at some of the factors involved in language shift.

For assistance in the preparation of this paper, thanks are due to Wayne Holm, Marlene Atcitty and Jonathan Embry.

Bernard Spolsky
Principal Investigator
Navajo Reading Study

Among those factors that play a role in the maintenance or loss of a language (Kloss, 1966) one of the most important is the existence of a language island. As long as the speakers of a language are isolated physically, socially, and culturally from other languages, there is little reason for them to give up its use. But of all the factors Kloss discusses, this is also one of the most fragile, for it disappears as contact increases. With the loss of isolation, language maintenance will have to depend on other factors.

The case of Navajo permits study of the nature of this process, for until quite recently, the language existed in comparative isolation. The size of the Navajo Reservation, the lack of roads or dense settlement, the scattered nature of Navajo living patterns, have all meant that the 120,000 Navajos have lived in a virtual language island. Historically, there has been contact with neighboring Indian tribes and with Spanish speakers, but until quite recently, these contacts have led to little change in language use. But with increasing strength since about 1940, there has been contact with English, which is slowly taking a major role in the speech community.

There are two distinct classes of contact with English: external contacts which occur when a Navajo speaker leaves

the Reservation, and internal contacts which occur in those situations when English intrudes into the life of the Reservation. External contacts range from living and working in an off-Reservation town (Los Angeles, Denver, Chicago and Albuquerque all have large Navajo populations), through attendance at an off-Reservation school (a border-city dormitory or boarding school or university), to occasional trips to the nearest off-Reservation town. Each stage of this continuum will influence the degree to which a Navajo learns and starts to use English. For instance, working off-Reservation can vary from a completely English-speaking environment to membership of a Navajo-speaking railway repair gang. For these external contacts to influence the pattern of Reservation language use, it is of course important that the speaker returns home. Thus, while distant work will have a major effect on an individual speaker's language pattern, his likelihood of return is less; and while occasional visits to town will have the least effect on the individual, these effects will be more noticeable in the community.

Of the various potential contacts with English on the Reservation, the one with greatest pressure is the school. Traders generally have learned Navajo; churches and missions mainly use Navajo; Public Health Service officials use

interpreters, as do most other officials who do not speak Navajo themselves. Radio stations broadcast in Navajo about 150 hours a week. But the school is still almost completely monolingual in English. There are modifications of this: a few pilot bilingual education programs have been started, there are Navajo-speaking teacher aides in many beginner's classes, and of course Navajo employees who can serve as interpreters. But school is basically a place where English is spoken.

In looking at the increase in the use of English on the Navajo Reservation, then, we might expect two main centers of diffusion: off-Reservation towns, and schools on the Reservation. In this study, we demonstrate the influence of these two factors, and attempt to show relative strength.

The measure we use for language shift is teacher rating of the language use of six-year-old Navajo children when they begin school. Whatever other measures of language maintenance one may establish, the most critical is the parents' choice of language to speak to their children at home. Thus, whatever desires may be expressed in interviews or public meetings, whatever parents with strong ethnic or national or religious ties may wish to have taught in school or church, the language they speak to their children at home makes their real attitude clear. Home attitude and

public attitude are not necessarily the same. A community that expresses interest in having its language taught in Head Start programs or elementary school may well be one where everyone speaks English at home, and a community that resists all attempts to establish bilingual education may well be the one that feels most confident of its ability to maintain the language. By looking at the six-year-old child, just as he comes to school, we find then the best picture of home language use and of parental language attitude.

To obtain our measure, we asked teachers in schools with Navajo pupils on and near the Reservation to fill out a questionnaire rating the language proficiency of the six-year-olds in their class at the time school started in September. A five-point scale was used, ranging from 5.00 for Navajo only, through 3.00 for equal proficiency in Navajo and English, to 1.00 for English only. Scores were given for each child: reliability and validity of the measure has been checked. A full account of the survey, and data establishing the reliability and validity of the questionnaire used, is given in Progress Report No. 13.

Some general details about the kind of schools and the geography of the Reservation will help make the study clearer.

The Navajo Reservation covers parts of four states: there are public schools under each state system. In addition, the Bureau of Indian Affairs operates 49 boarding schools, nine day schools, and a number of border-town dormitories. There are about seventeen schools operated by missions, and one school (Rough Rock Demonstration School) that is independent and operated by the community.

Public schools operate according to the law of the state in which they exist. School districts range in size from Gallup-McKinley with close to 10,000 pupils to Navajo Compressor Station No. 5 with 21. About 50% of the 55,000 school-age Navajo children (nine-tenths of whom are actually in school) attend public schools, which are relatively new on the Reservation, having begun to expand after 1959. By agreement between the Bureau of Indian Affairs and the Tribal Council, public schools usually enroll children living within a mile-and-a-half (sometimes a mile) of the school or of an established school bus route. The widely dispersed pattern of Navajo rural settlement and the lack of paved roads on the Reservation mean that the public schools draw most of the pupils from the emerging towns and government compounds; those pupils who come from rural areas live close to a paved road or a population center. Thus, the public schools enroll

almost all of the small number of non-Navajo students and a large proportion of the more acculturated Navajo students.

In this study, we look at data concerning contact in terms of accessibility. As suggested earlier, the major kinds of contact with English occur either in school or in visits off Reservation. This is represented in our study as two kinds of accessibility: ease of access to the school, and ease of access to the nearest off-Reservation town. We note the correlation of each of these with language maintenance, and compare their effect in the case of two schools.

Accessibility is a measure of distance with factors added for difficulties of roads. In calculating the accessibility index, the distance on improved paved roads is taken at face value: distances on gravel roads are multiplied by two; distances on graded dirt roads are multiplied by three; and distances on ungraded dirt roads multiplied by four. These factors are intended to allow for the relative difficulty of traveling the road during wet weather. In the more detailed study of Rock Point and Lukuchukai schools, further factors are added for the number of washes that must be crossed, to allow for the fact that when the wash is full, detours of various lengths are necessary.

To investigate how ease of access to an off-Reservation town influences a community's language maintenance, we

calculated an accessibility index and an average language score for each school. Results for the two years 1969 and 1970 are given in Tables I and II respectively. Schools are divided into categories. First are given Bureau of Indian Affairs schools arranged by agencies; the public schools are arranged by state and system, the mission and independent schools by state. The tables give the total number of six-year-olds surveyed at each school. The average language score is calculated as described above, with 5.00 representing maximum Navajo and 1.00 maximum English. The Accessibility index is calculated as described above, from the school itself to the nearest off-Reservation towns. Towns used for this purpose are Holbrook, Flagstaff and Winslow, Arizona; Albuquerque, Farmington, Gallup, Grants, New Mexico; Cortez, Colorado; and Monticello, Utah; in each case, we chose the one where members of the community are most likely to do their shopping.

TABLE I

Language Score and Accessibility of School

to Off-Reservation Town - 1969 Survey

School	Number of six-year-olds	Language Score	Accessibility Index
BUREAU OF INDIAN AFFIARS			
Chinle Agency			
Chinle	28	4.78	91
Low Mountain	37	4.05	115
Lukachukai	59	4.27	102
Many Farms	24	4.33	103
Mazlini	22	4.77	101
Pinon	69	4.71	122
Rock Point	44	4.40	88
Cottonwood Day	41	4.17	104
Eastern Navajo Agency			
Baca	6	4.33	19
Cheechilgeetho	29	4.00	56
Crownpoint	26	4.19	58
Lake Valley	14	5.00	141
Pueblo Pintado	37	4.08	124
Standing Rock	15	4.33	39
Thoreau	19	4.31	32
Torreon	20	4.75	126
Whitehorse	15	4.06	139
Ft. Wingate	24	4.75	13
Borrego Pass	11	4.81	75
Jones Ranch	11	4.36	54
Ojo Encino	15	4.13	157
Ft. Defiance Agency			
Chuska	47	3.78	24
Crystal	19	3.89	52
Dilcon	61	4.11	53
Greasewood	8	3.62	86
Hunter's Point	48	4.52	33
Kinlichee	29	4.44	53
Pine Springs	17	3.58	68
Seba Dalkai	29	3.75	46
Tohatchi	6	3.66	26
Toyei	55	4.49	80
Wide Ruins	29	4.10	85

TABLE I - continued

School	Number of six-year-olds	Language Score	Accessibility Index
Shiprock Agency			
Aneth	38	4.34	49
Nenahnezad	34	4.35	14
Red Rock	25	4.44	80
Sanostee	48	4.06	67
Shiprock	26	4.30	27
Teecnospos	78	4.10	47
Toadlena	45	3.26	86
Beclabito Day	2	3.50	50
Cove Day	17	4.82	102
Tuba City Agency			
Dennehotso	37	4.29	91
Kayenta	74	4.72	117
Navajo Mountain	31	4.51	251
Rocky Ridge	38	4.78	102
Tuba City	103	4.51	79
PUBLIC			
Arizona			
Chinle	119	3.54	91
Ganado	74	4.17	52
Kayenta	83	3.67	117
Many Farms	43	3.58	103
Round Rock	16	3.69	101
New Mexico			
Central:			
Naschitti	45	3.31	42
Mesa	113	3.49	27
Valley	67	3.07	27
Wilson	64	3.58	8
Gallup-McKinley:			
A. Roat	41	3.07	1
Indian Hills	12	3.24	1
Jefferson	11	3.18	1
Lincoln	13	2.15	1

TABLE I - continued.

School	Number of six-year-olds	Language Score	Accessibility Index
Gallup-McKinley - contd.:			
Red Rock	24	3.75	1
Roosevelt	8	2.28	1
Sky City	1	4.00	1
Su-nyside	9	2.33	1
Washington	45	2.37	1
Church Rock	75	3.67	14
Crownpoint	132	3.35	58
Navajo	66	3.56	42
Ramah	32	3.93	43
Thoreau	69	4.27	32
Tohatchi	85	3.85	26
Tse Bonito	10	4.00	24

TABLE II

Language Score and Accessibility of School

to Off-Reservation Town - 1970 Survey

School	Number of six-year-olds	Language Score	Accessibility Index
BUREAU OF INDIAN AFFAIRS			
Chinle Agency			
Chinle	40	4.63	91
Cottonwood	63	4.14	98
Low Mountain	44	4.02	148
Lukachukai	55	4.33	89
Many Farms	28	4.11	102
Nazlini	28	3.43	106
Piñon	72	4.83	115
Rock Point	55	4.24	100
Eastern Navajo Agency			
Baca	15	4.33	20
Borrego Pass	12	3.33	68
Bread Springs	13	3.60	35
Cañoncito	29	4.17	32
Cheechilgeetho	29	3.93	52
Crownpoint	34	4.24	58
Dlo'ay Azhi	43	4.32	32
Dzilth-Na-O-Dith-Hle	30	4.03	38
Ft. Wingate	63	5.00	15
Jones Ranch	20	3.80	57
Lake Valley	16	4.06	153
Mariano Lake	33	4.00	75
Ojo Encino	14	4.11	163
Torreon	22	4.36	108
Whitehorse Lake	18	4.31	136
Ft. Defiance Agency			
Chuska	23	4.26	24
Crystal	24	3.67	53
Dilcon	56	4.14	68
Greasewood	61	3.87	83
Hunter's Point	29	4.76	33
Kinlichee	26	4.44	53
Pine Springs	21	3.67	68
Seba Dalkai	30	3.93	46
Tohatchi	31	3.94	25
Toyei	62	3.31	80
Wide Ruins	31	4.42	85

TABLE II - continued

School	Number of six-year-olds	Language Score	Accessibility Index
Shiprock Agency			
Aneth	30	4.03	49
Cove	10	4.50	102
Nenahnezad	44	4.27	13
Red Rock	28	4.57	57
Sanostee	71	4.30	64
Shiprock	23	4.70	29
Teec Nos Pos	97	3.97	57
Toadlena	23	4.09	73
Tuba City Agency			
Chilchinbeto	22	4.46	169
Dennehotso	44	4.34	101
Kaibeto Primary	24	5.00	173
Kayenta	58	4.69	154
Leupp	36	4.39	41
Navajo Mountain	33	4.61	246
Red Lake	31	4.61	103
Rocky Ridge	48	4.21	103
Tuba City	96	4.67	82
Hopi Agency			
Keams Canyon	11	4.64	62
PUBLIC			
Arizona			
Ft. Defiance	101	2.67	30
Ganado	57	4.50	52
Holbrook:			
Hulet	6	2.40	1
Sheldon	10	2.70	1
Joseph City	1	3.00	8
Navajo Compressor Station	3	2.33	74
Page	28	3.89	138
Puerco	43	3.80	41
Red Mesa	22	4.50	69
Round Rock	18	3.72	101
Snowflake #5	7	3.57	24
Tuba City	155	3.42	82

TABLE II - continued.

School	Number of six-year-olds	Language Score	Accessibility Index
Arizona - contd.			
Winslow:			
Bonnie Brennan	4	3.50	1
Jefferson #1	2	2.00	1
Roosevelt	3	2.00	1
Washington	16	3.00	1
Colorado			
Egnar	6	3.67	49
Mancos	1	1.00	18
Montezuma - Cortez Re-1	17	3.59	1
Rico	3	4.33	49
New Mexico			
Bloomfield:			
Central	33	3.72	14
Rio Vista	16	3.25	14
Central:			
Mesa	121	3.14	27
Naschitti	11	3.18	42
Ruth Bond	72	3.11	8
Valley	129	2.84	27
Cuba Independent	39	3.50	82
Farmington:			
Apache	35	3.29	1
McCormick	11	3.27	1
Fence Lake	15	4.71	62
Gallup-McKinley:			
Aileen Roat	32	3.72	1
Jefferson	4	3.00	1
Lincoln	18	2.56	1
Red Rock	21	3.67	1
Sky City	3	3.00	1
Washington	27	2.65	1
Church Rock	98	3.57	8
Crownpoint	72	3.60	57
Navajo	69	3.07	42
Ramah	19	2.68	43
Thoreau	48	2.73	32
Tohatchi	115	3.49	24
Tse Bonito	17	3.47	24

TABLE II - continued

School	Number of six-year-olds	Language Score	Accessibility Index
New Mexico - contd.			
Lybrook	21	3.40	62
Magdalena	22	3.91	105
Utah			
Blanding:			
Park Terrace	19	4.00	21
Mexican Hat	19	3.74	72
Montezuma Creek	49	3.39	58
MISSION			
Arizona			
Immanuel Mission	10	4.60	105
Seventh-day Adventist	1	3.00	1
St. Michael	26	2.85	27
Twin Wells	19	2.00	16
New Mexico			
All Tribes Indian	1	2.00	18
American Indian Bible	1	1.00	1
Berean Mission Navajo	7	3.29	14
Brethren in Christ	6	2.33	14
Brethren Navajo Mission	8	3.25	67
Cathedral Elementary	1	2.00	1
Rehoboth Mission	11	1.82	5
INDEPENDENT			
Arizona			
Rough Rock Demonstration	59	4.34	152

Calculation of the correlation between the mean language score and the accessibility index gives a result for 1969 of 0.52 and for 1970 of 0.55. Thus, the importance of accessibility to language maintenance is confirmed. The nearer a community is to an off-Reservation town, the more contact it has with English and the more likely parents are to speak some English at home. The accessibility index and the language score are both measures of acculturation, and it is likely that they would both correlate with other similar measures.

The second factor we wish to consider is the school itself as a center of diffusion for English. To do this, we need to compare language score with individual accessibility to school. We gathered data to do this from two schools, but first present other evidence bearing on the same question.

The first evidence can be derived from variation between kinds of schools. As explained earlier, it is almost always the case that children attending public schools live closer to school than those who attend Bureau of Indian Affairs schools. Thus, the difference between the language scores of six-year-olds attending these schools should reflect this fact: by choosing six-year-olds, we avoid any effect of the school itself.

The difference between the language situation of public schools and BIA schools turns out to be quite striking. In the 1969 survey, the BIA schools had an average language score of 4.30, and the public schools (leaving out the Gallup urban schools, with an average score of 2.85) an average of 3.58. These distinctions are maintained in the 1970 survey, where the survey was more complete (we reached over 84% of all six-year-olds in school). The average language score for all BIA schools for 1970 is 4.26, and that for all public schools 3.39. These are huge differences: statistically, a difference of 0.05 would be highly significant.

In general terms, it is possible to say that six-year-olds coming to BIA schools tend to be speakers of Navajo who know a small amount of English, while six-year-old Navajo children coming to public schools are closer to being "balanced" bilinguals. And one of the key factors in explaining this is the fact that public school children live much closer to school, the center of diffusion.

This effect continues to show up when we compare those cases where a public school and a BIA school are in the same locality. In these cases, the index of accessibility to town would be the same in our method of calculation. But it is always the case that the children attending public schools live much closer to school than do the children attending the BIA school. TABLES III and IV set out such pairs.

TABLE III

Comparison of BIA and Public Schools in the same locality, 1969 survey.

BIA	Number of six-year-olds	Average Language Score	PUBLIC	Number of six-year-olds	Average Language Score
Chinle	28	4.78	Chinle	119	3.54
Crownpoint	26	4.19	Crownpoint	132	3.35
Kayenta	74	4.72	Kayenta	83	3.67
Shiprock	26	4.30	(Mesa (Valley	113 67	3.45 3.07
Thoreau	19	4.31	Thoreau	69	4.27
Tohatchi Chuska	6 47	3.66) 3.78)	Tohatchi	85	3.85
Red Rock	25	4.44	Red Rock	24	3.75
Many Farms	24	4.33	Many Farms	43	3.58

TABLE IV

Comparison of BIA and Public Schools in the same locality, 1970 survey.

BIA	Number of six-year-olds	Average Language Score	PUBLIC	Number of six-year-olds	Average Language Score
Crownpoint	34	4.24	Crownpoint	68	3.60
Dlo'ay Azhi	41	4.32	Thoreau	47	2.73
Tohatchi	31	3.94	Tohatchi	112	3.49
Chuska	23	4.26			
Tuba City	94	4.67	Tuba City	155	3.42
Shiprock	23	4.70	(Mesa	119	3.14
			(Valley	125	2.84
Ft. Wingate	62	5.00	Church Rock	97	3.57
Nenahnezad	44	4.27	Ruth Bond	71	3.11
Aneth	30	4.03	Montezuma Creek	49	3.39
Crystal	24	3.67	Navajo	68	3.07
Kinlichee	25	4.44	Ganado	56	4.50

Inspection of these tables will show that in all cases, there is a considerably higher amount of English known by the children coming to public schools, even though the schools themselves are within a few miles of each other: thus Kayenta Elementary School (public) had an average score of 3.67 compared to Kayenta Boarding School (BIA) 4.72.

The comparison of kinds of schools, then, provides evidence on the importance of ease of access to school as a factor. To look at this in more detail, we carried out a study at two schools, gathering data on individual accessibility. In these cases, we are able to analyze the correlation of distance from home to school and language maintenance, and in one case, compare the relative effect of access to school and to town.

The first community chosen for this is Rock Point. Rock Point Boarding School is in Arizona, about fifty miles north of Chinle. Almost all of its pupils come from families considered part of the Rock Point community, and live within a radius of fifteen miles from the school. The school has about 350 pupils, from kindergarten through sixth grade. Attendance percentage is high; 48 of the 54 six-year-olds on the census are in school. Most of the children of elementary school age in the Rock Point community attend the

school. About thirty (none of them six-year-olds) are in the Lutheran Mission School. Children living at the school compound can go by bus to Round Rock Public School (fifteen miles south): no six-year-olds from Rock Point do. Beyond sixth grade, children must attend public school or other Bureau boarding schools. Rock Point was considered, in the late 20's, to be one of the more progressive communities, but it has lagged behind and is now considered one of the less acculturated communities. The washes between Rock Point and Chinle were bridged and the road paved only in the early 60's. Chinle Wash, a large but intermittent stream, is bridged only twenty miles north and south of Rock Point. Thus, a number of children who live within a few miles of a paved road but on the "wrong" side of the wash board at the school. It is circumstances such as this that make notions of "accessibility" rather than "distance from school" necessary.

For Rock Point, the average language score for six-year-olds in 1970 is 4.26, and the average accessibility score from home to school is 12.7 (S.D. 12.9). The correlation between the scores is 0.28. The data support the notion that there is a greater tendency for those who live near the school to know English. We see then that within the community, the school is an important center of diffusion, effecting the

amount of English spoken at home by parents and learned by children before they come to school. When we are working at this level of the individual, it is not surprising that the correlation is less than when looking at the community as a whole.

The second community we looked at permits some more comparison of the relative effect of these two centers of diffusion. Lukachukai Boarding School is in Arizona, sixty miles north of Window Rock. Its 540 children are drawn from three distinct communities: Lukachukai children walk to school, come by bus, or board at the school depending on distance; Tsailee children come by bus or board; and Wheatfields children are all boarders.

Lukachukai has long been the site of a Catholic mission. The community seems unique in its simultaneous acculturation and traditionalism: it is as if having acculturated "at a distance" from direct Anglo influence, it had been able to be more selective than those communities closer to such towns. Tsailee and Wheatfields are considered to be less acculturated. It is only in the last few years that highway Navajo 12 from Window Rock north and running through Wheatfields and Tsailee was paved. Lukachukai is high and up alongside the mountains. The terrain is rough and cut by a number of small streams that, after a rain, are very

rapid. Tsailee and Wheatfields are even higher and roads become very difficult in bad weather. Again, these factors make accessibility figures more meaningful than more distance.

For each six-year-old child in the school, we calculated three figures: accessibility of the off-Reservation town (Gallup), accessibility of the school, and language score. The two accessibility scores correlate negatively (-0.39) because the closer a family lives to school, the farther it lives from town. No correlation (-.01) showed up between individual language scores and individual distances to town: it seems clear that this is a factor affecting a whole community rather than the individual members of it; but there is a correlation (0.12) between individual language scores and distance from the school. Thus, while the general community language situation is influenced by the off-Reservation town, the individual family's situation shows some evident of its ease of access to the school.

The isolation of the Navajo language island is diminishing, we can note, as a direct result of improved access to off-Reservation towns and to the school. Clearly, there will be a great number of factors that decide the decision of an individual family to use English with their children before they go to school. Whatever they are, it is evident that accessibility to the center of diffusion of English--the nearest off-Reservation town, and the community's school--is a major factor in the process.

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BIBLIOGRAPHY

Reading Books

1. *Mósí łgai* Story by Marlene Atcitty, Illustrations by Caryl McHarney. 8 pp.

2. *Pábii dóó Másí.* Story by Judy Harvey, Illustrations by Caryl McHarney. 16pp. w/cover. (in preparation)

3. *Jasper Naané.* Story by Irene Silentman, Illustrations by Caryl McHarney. 6 pp. (in preparation)

4. *Táá' Hastóí.* Story by Judy Harvey, Illustrations by Caryl McHarney. 8 pp. w/cover. (in preparation)

Progress Reports

1. *NRS Progress Report No. 1.* R. Paul Murphy. July, 1969.

2. Proposal for Language Analysis Study. *NRS Progress Report No. 2.* August-September, 1969.

3. Analytical Bibliography of Navajo Reading Materials. Bernard Spolsky, Agnes Holm, Penny Murphy. *NRS Progress Report No. 3.* October-November, 1969. [ED 035 484].*

4. Report of a Conference on the Language Sample, held in Albuquerque on December 4-5, 1969. Edited by R. Paul Murphy. *NRS Progress Report No. 4.* December, 1969. [ED].*

5. Navajo Language Maintenance: Six-Year-Olds in 1969. Bernard Spolsky. *NRS Progress Report No. 5.* March, 1970. [ED 043 004].*

6. Teaching Initial Reading in Navajo: Report of a Conference of Educators held at Kayenta, January 30-31, 1970. Edited by Penny Murphy. *NRS Progress Report No.6.* April, 1970. [ED 043 005].*

7. Analytical Bibliography of Navajo Reading Materials. (Revised and Enlarged Edition). Bernard Spolsky, Agnes Holm, Penny Murphy. *NRS Progress Report No. 7.* June, 1970. [ED 043 413].*

8. Literacy in the Vernacular: The Case of Navajo. Bernard Spolsky and Wayne Holm. *NRS Progress Report No. 8.* March, 1971.

9. A Computer Assisted Study of the Vocabulary of Six-Year-Old Navajo Children. Bernard Spolsky, Wayne Holm and Jonathan Embry. *NRS Progress Report No. 9.* August, 1971.

10. A Spoken Word Count of Six-Year-Old Navajo Children. Bernard Spolsky, Wayne Holm and Babette Holliday, Judy Harvey Marlene Atcitty, Irene Silentman, Jonathan Embry. *NRS Progress Report No. 10.* August, 1971.

11. Navajo Spelling Lists. Wayne Holm. *NRS Progress Report No. 11.* August, 1971.

12. Grapheme and Unit Frequencies in Navajo. Wayne Holm. *NRS Progress Report No. 12.* August, 1971.

13. Navajo Language Maintenance II: Six-Year-Olds in 1970. Bernard Spolsky. *NRS Progress Report No. 13.* August, 1971.

14. Navajo Language Maintenance III: Accessibility of School and Town as a Factor in Language Shift. Bernard Spolsky. *NRS Progress Report No. 14.* August, 1971.

15. Preparing Reading Materials in Navajo. Marlene Atcitty, Judy Harvey Richard Johnsen, Caryl McHarney, Linda Rogers, Irene Silentman. *NRS Progress Report No. 15.* August, 1971.

16. English Loan Words in the Speech of Six-Year-Old Navajo Children. Agnes Holm, Wayne Holm, Bernard Spolsky. *NRS Progress Report No. 16.* August, 1971.

Published Elsewhere

1. "Navajo Reading Study". *English for American Indians.* Spring, 1970, pages 13-19.

2. Analytical Bibliography of Navajo Reading Materials (Enlarged and Revised Edition). BErnard Spolsky, Agnes Holm, Penny Murphy. Curriculum Bulletin No. 10, United States Bureau of Indian Affairs, 1970.

3. Navajo Language Maintenance: Six-year-olds in 1969. Bernard Spolsky. *Language Sciences.* December, 1970, No. 13, pages 19-24.

4. Literacy in the Vernacular: The Navajo Reading Study. Bernard Spolsky. Paper presented to the Council on Anthropology and Education Symposium on Cognitive and Linguistic Studies, 69th Annual Meeting of the American Anthropological Association, San Diego, November 19, 1970. [ED].*

5. Literacy in the Vernacular: The Case of Navajo. Bernard Spolsky and Wayne Holm. *Studies in Language and Linguistics, 1970-71,* edited by Jacob Ornstein. University of Texas at El Paso Press.

6. Bilingualism in the Six-Year-Old Navajo Child. Bernard Spolsky and Wayne Holm. Paper to be presented at the Conference on Child Language, Chicago, November 22-24, 1971.

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